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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,120	12/15/2003	Boris Ginzburg	P-6222-US	4845
49444 7590 03/13/2008 PEARL COHEN ZEDEK LATZER, LLP 1500 BROADWAY, 12TH FLOOR NEW YORK, NY 10036				
EXAMINER HOM, SHUCK C				
ART UNIT 2616		PAPER NUMBER		
MAIL DATE 03/13/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/734,120

**Applicant(s)**

GINZBURG ET AL.

**Examiner**

SHICK C. HOM

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 13-18 and 20-39 is/are rejected.
- 7) ☒ Claim(s) 8-9, 11-12, 19, 40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/4/08 has been entered.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5, 10, and 20-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar et al. (5,550,881) in view of Cookman et al. (6,697,831).

Regarding claims 1-5, 10, and 20-33:

Sridhar et al. disclose a method comprising: selecting by a controller to modulate a data frame of a signal using either a first modulation method or a second modulation method, based on a predetermined criterion as in claims 1, 20, 28; and wherein

said predetermined criterion comprises a comparison between a channel quality value and a predetermined reference quality value and wherein said reference quality value comprises a minimum quality value and wherein said channel quality value is related to one or more data frames previously received or transmitted by the apparatus as in claims 2-4, 23-27, and 31-33 (Fig. 2, and col. 2 lines 62-65 shows and recites selecting a modulation mode by a controller selected from one of a plurality of modulation modes such as V.34, V.32/V.32.bis, V.22/V.22bis, and Bell 103, for time efficient transmission and the abstract recite selecting modulation mode by calculating and comparing optimized transmission time).

Sridhar et al. disclose all the subject matter of the claimed invention with the exception of whereby the first modulation method being implemented by a frequency-multiplexing modem and the second modulation method implemented by a spatial-multiplexing modem as in claims 1, 6, 10, 20-22, 28-30.

Cookman et al. from the same or similar fields of endeavor discloses in the background of his invention that it is known to provide whereby the first modulation method being implemented by a frequency-multiplexing modem and the second modulation method implemented by a spatial-multiplexing modem (col. 2 lines 14-47 recite V.22 standard modem using frequency division multiplexing

FDM for communication and V.34 and V.90 using PCM modulation, i.e. spatial-multiplexing).

Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide whereby the first modulation method being implemented by a frequency-multiplexing modem and the second modulation method implemented by a spatial-multiplexing modem as disclosed by Cookman et al. in the communications apparatus and method of Sridhar et al.

The first modulation method being implemented by a frequency-multiplexing modem and the second modulation method implemented by a spatial-multiplexing modem can be implemented by using the known frequency-multiplexing technique and the spatial-multiplexing technique as recited in Cookman et al. in the modems of Sridhar et al. The motivation for providing frequency-multiplexing modem and spatial-multiplexing modem as recited by Cookman et al. in the communication apparatus and method of Sridhar et al. being that it provides more efficiency for the system since the system uses well-known recognized techniques of frequency-multiplexing and spatial-multiplexing for the transmission of data.

5. Claims 6-7, 13-18, and 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar et al. (5,550,881) and Cookman et al. (6,697,831) in view of Hammons, Jr. et al. (2002/0165626).

For claims 6-7, 13-18, and 34-39, Sridhar et al. and Cookman et al. disclose the system, method, and apparatus described in paragraph 4 of this office action. Regarding claims 14-15 and 35-36, Sridhar et al. disclose wherein said predetermined criterion comprises a comparison between a channel quality value and a predetermined reference quality value and wherein said reference quality value comprises a minimum quality value (the abstract recite selecting modulation mode by calculating and comparing optimized transmission time). Regarding claims 18 and 39 Cookman et al. disclose wherein said spatial-multiplexing modem comprises a space-time coding modem (col. 2 lines 14-47 recite using PCM modulation, i.e. spatial-multiplexing).

Sridhar et al. and Cookman et al. disclose all the subject matter of the claimed invention with the exception of a wireless device comprising two or more omni-directional antennas as in claims 13 and 34; and wherein said frequency-multiplexing modem comprises a multi-channel modem as in claims 6-7, 16-17, 37-38.

Hammons, Jr. et al. from the same or similar fields of endeavor teach that it is known to provide a wireless device comprising two or more omni-directional antennas (Fig. 4 shows a wireless system including multiple antennas as in claims 13 and 34); and wherein said frequency-multiplexing modem comprises a multi-channel modem (paragraph 0011 recite the multi-channel system using frequency division multiplexing modulation; and paragraph 0099 recite the modem as in claims 6, 16, 37).

Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide a wireless device comprising two or more omni-directional antennas; and wherein said frequency-multiplexing modem comprises a multi-channel modem as taught by Hammons et al. in the communications system, method, and apparatus of Sridhar et al. and Cookman et al.

The wireless device comprising two or more omni-directional antennas; and wherein said frequency-multiplexing modem comprises a multi-channel modem can be implemented by providing the wireless device and connecting the multi-channel modem of Hammons, Jr. et al. to the system of Sridhar et al. and Cookman et al. The motivation for providing the wireless device and connecting the multi-channel modem as taught by Hammons, et al. in the communication system of Sridhar et al. and Cookman et al.



being that it provides the desirable added feature of wireless communication and more efficiency for the system since the system uses a multi-channel modem for data transmission.

***Allowable Subject Matter***

6. Claims 8-9, 11-12, 19 and 40 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.  
McHale et al. disclose a communication server apparatus having four-wire switching interface and method.  
Farmwald discloses a system for enhancing data transfer.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHICK C. HOM whose telephone number is (571)272-3173. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pham Chi can be reached on 571-272-3179. The fax phone number for the organization

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where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SH

/Chi H Pham/  
Supervisory Patent Examiner, Art Unit 2616  
3/6/08